a plurality of physical disk units storing a plurality of copies of each of logical volumes;

and

a disk controller accessing any of the physical disk units which stores a designated

logical volume to thereby access said designated logical volume,

said disk controller including:

a memory storing the number of operations requested to each physical disk unit,

for each physical disk unit, and

control means for accessing one of said plurality of physical disk units which

stores the designated logical volume, in accordance with said number of operations,

wherein said control means compares numbers of operations corresponding to a

plurality of physical disk units which store said designated logical [volumes] volume with each

other, and selects the physical disk unit which has a minimum number of operations,

and wherein said control means increments the number of operations of said designated

physical disk unit in accordance with a request for said operation and decrements the number

of operations of a physical disk unit whose operation has been completed, in accordance with

an end of said operation.

3.   (NOT AMENDED HEREIN) The RAID apparatus according to claim 1,

wherein said control means includes:

a channel adapter circuit performing interface control with a high-rank apparatus;

a device adapter circuit accessing said physical disk units in accordance with a

requested operation; and

a resource manager circuit determining one of the plurality of physical disk units to be

accessed in accordance with said number of operations in said memory in response to a

transfer request from said channel adapter circuit, and requesting said device adapter circuit to

perform an operation accessing said determined physical disk unit.

4.   (ONCE AMENDED) The RAID apparatus according to claim 3, wherein said

resource manager circuit increments a number of operations of said determined physical disk

unit in accordance with [a] the request [on] for said operation and decrements [a] the number

of operations of [a] the physical disk unit whose operation has been completed, in accordance

with [an] the end of said operation of said device adapter circuit.

5.   (NOT AMENDED HEREIN) The RAID apparatus according to claim 3,

wherein said memory stores status information indicating statuses of said physical disk units;

and

said resource manager circuit refers to said status information to determine whether

those physical disk units which store said designated logical volume are normal and selects a

normal physical disk unit.

6.   (NOT AMENDED HEREIN) The RAID apparatus according to claim 3,

wherein for each logical volume, said memory stores information of a plurality of physical disk

units which store said logical volume; and

said resource manager circuit refers to said memory to select a physical disk unit on

which said logical volume is allocated.

7.   (ONCE AMENDED) An access control method for a RAID apparatus

comprising a plurality of physical disk units storing a plurality of copies of each of logical

volumes, and a disk controller accessing any physical disk unit which stores a designated

logical volume to thereby access said designated logical volume, said method comprising:

determining a plurality of physical disk units which store a designated logical volume;

and

selecting one of said determined physical disk units in accordance with the number of

operations requested to said physical disk units,

wherein said selecting step comprises:

comparing said numbers of operations of a plurality of physical disk units which

store said designated logical volumes with each other, [and]

accessing the physical disk unit which has a minimum number of operations,

incrementing the number of operations of said accessed physical disk unit in

accordance with a request for said operation, and

-4-

decrementing the number of operations of a physical disk unit whose operation

has been completed, in accordance with an end of said operation.

9.   (NOT AMENDED HEREIN) The access control method according to claim 7,

wherein said determining step determines said plurality of physical disk units in response to a

transfer request from a high-rank apparatus; and

said selecting step includes:

requesting an operation for accessing said physical disk unit determined in

accordance with said number of operations, and

accessing said physical disk unit in accordance with said requested operation.

10.   (ONCE AMENDED) The access control method according to claim 9, [further

comprising:

incrementing the number of operations of said determined physical disk unit,] wherein

the number of operations of said determined physical disk unit is stored in a memory, and a

memory location at which the number of operations is stored is incremented in accordance with

[a] the request [on] for said operation[;] and is [decrementing] decremented in accordance with

the number of operations of [a] the physical disk unit whose operation has been completed, in

accordance with an end of said operation of said physical disk unit.

11.   (NOT AMENDED HEREIN) The access control method according to claim 7,

wherein said selecting step includes:

referring to status information to determine indicative of statuses of said physical disk

units, stored in a memory, to determine whether those physical disk units which form said

identified logical volume are normal; and

selecting a normal physical disk unit.

12.   (NOT AMENDED HEREIN) The access control method according to claim 7,

wherein said determining step includes referring to information of a plurality of

physical disk units which store said logical volume, stored in a memory, to determine physical

disk units storing said logical volume.

13. (ONCE AMENDED) A RAID apparatus comprising:

physical disk units storing redundant logical volumes, a first of the redundant logical

volumes being stored on one of the physical disk units, and a second of the redundant logical

volumes being stored on another of the physical disk units; and

a disk controller counting numbers of operations respectively requested of each of the

physical disk units and accessing one of the first and the second of the redundant logical

volumes based on a minimum number of the numbers of operation respectively requested of

each of the physical disk units, wherein said disk controller increments the number of

operations of an accessed physical disk unit in accordance with a request for said operation and decrements the number of operations of an accessed physical disk unit whose operation has been completed, in accordance with an end of said operation.

Please add new claims 14-16 as follows:

14. (New) A RAID controller accessing one of a plurality of physical disk units storing a plurality of copies of each of logical volumes to thereby access a designated logical volume, comprising:

a memory storing a number of operations requested to each physical disk unit corresponding to each physical disk unit; and

a controller comparing said numbers of operations corresponding to a plurality of physical disk units which store said designated logical volume with each other, and selecting one of said plurality of physical disk units which has a minimum number of operations,

wherein said controller increments the number of operations of said selected physical disk unit in accordance with a request for said operation and decrements the number of operations of a physical disk unit whose operation has been completed, in accordance with an end of said operation.

15. (New) A balancing access method for a RAID apparatus comprising a plurality of physical disk units storing a plurality of copies of each of logical volumes, comprising:

comparing numbers of operations of a plurality of physical disk units which store a designated logical volumes with each other;

selecting one of said physical disk units which has a minimum number of operations;

incrementing the number of operations of said accessed physical disk unit in accordance with a request on said operation; and

decrementing the number of operations of a physical disk unit whose operation has been completed, in accordance with an end of said operation.

16. (New) A storage medium of a RAID apparatus storing a program, said program comprising:

comparing numbers of operations of a plurality of physical disk units which store a designated logical volumes with each other;

accessing one of said physical disk units which has a minimum number of operations:

incrementing the number of operations of said accessed physical disk unit in accordance with a request on said operation: and

decrementing the number of operations of a physical disk unit whose operation has been completed, in accordance with an end of said operation.